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(71) Applicant (for all designated States except US): **DREXEL UNIVERSITY** [US/US]; 32nd and Chestnut Streets, Philadelphia, PA 19104 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **YELLEN, Benjamin, B.** [US/US]; 2100 South Street, 3rd Floor, Philadelphia, PA 19146 (US). **FRIEDMAN, Gennady** [US/US]; 5 Dartmouth Lane, Richboro, PA 18954 (US).

(74) Agents: **LICATA, Jane, Massey et al.**; Licata & Tyrrel PC, 66 E. Main Street, Marlton, NJ 08053 (US).

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(54) Title: PROGRAMMABLE SELF-ALIGNING LIQUID MAGNETIC NANOPARTICLE MASKS AND METHODS FOR THEIR USE

(57) Abstract: Magnetic nanoparticle masks for lithographic applications of a substrate and methods for producing such masks via defining regions of localized magnetic field maxima and minima on a substrate are provided. Also provided are methods for producing multi-component patterns on a substrate with the magnetic nanoparticle masks.